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A review of innovation and emerging markets

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Introduction

Emerging markets (EMs) have been appearing at an accelerated pace. Studies on this phenomenon have tended to focus on the entrance of Western multinationals into EMs, discussing these multinationals' success and failure to refine existing international theoretical models. Nonetheless, the research over the last decade has much shifted to the capability of multinationals in EMs to compete in the global arena (Williamson, Ramamurti, Fleury, and Fleury, 2013). Among others, innovation has been considered a key factor for these EMs multinationals to gain and sustain competitive advantages in the competitive global value chain (Liu and Zhang, 2014). Innovation, a strategic factor and asset, plays a critical role for firm performance, including when competing in EMs and for EM multinationals. In the current paper, we aim to systematically review the interrelation between innovation and EMs in scholarly journal publications to provide an overview of the existing research and to identify the research gaps for future research direction.

The rest of the paper is structured as follows: First, the research method is described regarding how we systematically identified the targeted journal articles and the analysis; then, we present the descriptive results of the search, which is followed by the findings on innovation and EMs; finally, we discuss and conclude the search analysis based on the preliminary findings while providing a future research agenda.

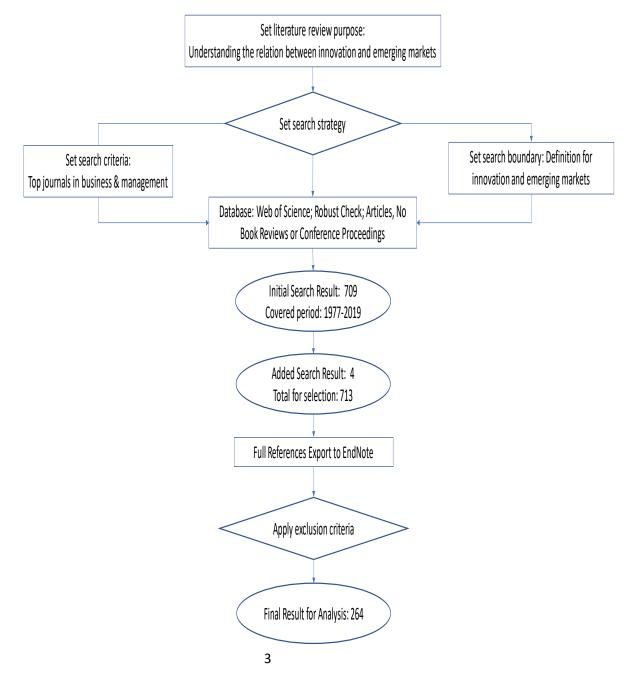
Research method

After setting our research objective for the current systematic literature review, we set up our search method's protocol (see Figure 1).

In terms of search strategy, we have been focusing on top research journals in the field of business and management. To figure out a list of the core articles for our research, we followed some scholars' review work (e.g., Anderson, Potocnik, and Zhou, 2014; Kirkman, Lowe, and Gibson, 2006; Podsakoff, Mackenzie, Bachrach, and Podsakoff, 2005; Tsui, Nifadkar, and Ou, 2007) by identifying the key top academic journals. To ensure an accurate definition of the related top research journal list in the searched topic, we established two approaches and combined them.

On the one hand, we combined the list provided by four review works, representing the top journals in the field of culture, management, and international business, and we added four reputed journals specialized in innovation (i.e. *Research Policy, Technovation, Journal of Product Innovation Management*, and *R&D Management*); this produced a list of 69 journals. From this list, we found 17 journals that were either book series or ranked at as Q3 or below in the Social Science Citation Index (SSCI). Some of these also had a strong connotation of behavioral and psychological studies given that some review papers were about organizational behavior and culture. However, these foci are not in line with the current study, which is more generally on innovation and specific to the field of international business. In addition, we did a robust check and found that many of the listed journals had no relevant articles published on the topic.

Figure 1. Search protocol



On the other hand, we employed the Academic Journal Guide (AJG) 2018, published by the Chartered Association of Business Schools (CABS, 2018); this includes the areas of general management, 1 international business and area studies, strategy, organization studies and innovation. We only selected the journals indexed at level 3 or above, considering this a criterion for a top journal with a high reputation in their corresponding field and publishing well-executed research papers. By combining these two lists, we came up with a list of 42 journals (see Table 1) at which we targeted the systematic literature review.

Table 1. List of 42 journals for WoS search

Journals List	ABS Area	
Academy of Management Annals	General Mgt	
Academy of Management Journal	General Mgt	
Academy of Management Perspectives	General Mgt	
Academy of Management Review	General Mgt	
Administrative Science Quarterly	General Mgt	
African Affairs	Int Bus and Area Studies	
Asia Pacific Journal of Management	Int Bus and Area Studies	
British Journal of Management	General Mgt	
California Management Review	General Mgt	
Decision Sciences	Operations Research and Mgt Science	
European Management Review	General Mgt	
Global Strategy Journal	Strategy	
Group Organization Management	Organization Studies	
Harvard Business Review	General Mgt	
Human Relations	Organization Studies	
International Business Review	Int Bus and Area Studies	

¹ The AJG 2018 list contains the area of "general management, business ethics, and social responsibility." We eliminated these areas focusing on business ethics and social responsibility because they were not our focus.

Journal of Business Research General Mgt Journal of Common Market Studies Int Bus and Area Studies Journal of International Business Studies Int Bus and Area Studies Journal of International Management Int Bus and Area Studies Journal of Management Inquiry General Mgt Journal of Management Studies General Mgt Journal of Product Innovation Management Innovation Journal of World Business Int Bus and Area Studies Leadership Quarterly Organization Studies Long Range Planning Strategy Management and Organization Review Int Bus and Area Studies Management International Review General Mgt Organization Studies Organization Studies Research in the Sociology of Organizat	International Journal of Management Reviews	General Mgt
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	Technovation	Innovation

In terms of databases, we chose to employ the Web of Science (WoS) as a source database to conduct the systematic literature review. There are several reasons for this. First, all 42 enlisted journals are in SSCI, so it is an easy source to collect all these journals' data from one single source instead of searching for them in separate in different database sources like EBSCOHost, ProQuest,

or JSTOR. Second, by using a single database source, the search process was homogeneous compared with several databases. For instance, EBSCOHost and ProQuest use different search paths, definitions, and areas, which may hinder the comparability level of the outcomes. Third, WoS has several automatized filter criteria that can make the partial application of inclusion and exclusion criteria more efficient.

In terms of the search boundary, we needed to define the keywords used for the search in all fields in the core collection of WoS. We tested this using different potential keywords and decided to adopt "innovate*" and "Emerging market*" or its variations "Emerging countr*," "emerging econom*," "transition* econom*," "transition* countr*," "transition* market*," "developing countr*," "developing econom*," or "developing market*" based on the definition of EMs by Hoskisson, Eden, Lau, and Wright (2000); the definition of EMs is changing, and there is a great heterogeneity among the countries where EMs are found (Wright, Filatotchev, and Hoskisson, 2005). In general, EMs are understood as countries that are moving out of stagnated economic development and that are very close to being developed economies (Hoskisson, Wright, Filatotchev, and Peng, 2013). We also robustly tested for the keywords and derivates of innovation. We considered, for instance, the terms creativity, new product development, and new idea. However, we decided to stick with the term innovation rather than adding these variations to keep our original goal of studying innovation rather than its variations. It is very probably that many of these terms can be used interchangeably by some scholars in certain fields, but we did not want to use a preconceived definition for this in our research. Indeed, we wanted to explore the definition of innovation in the scholarly work. After the initial results from the WoS search, we refined the search results with certain WoS categories (management or operations research management science or psychology applied or business or development studies or social sciences interdisciplinary) using all years in terms of time span and SSCI in terms of indexes.

We spent a month and a half in testing and defining the final journal list and the different keywords for the search, finally making our final search work with WoS on March 6, 2019, limiting the articles to those published in the English language and excluding proceedings papers, book reviews, news items, and editorial material. The initial results gave 709 items, and we exported the full data available for these articles to EndNote, a specialized reference management software system. Four more articles were added in June 2019 because WoS automatically notifies the search alert and result through email services. We ended up with a list of 713 articles for final coding and analysis.

To narrow down our list of articles to a core list of relevant literature, we introduced a three-stage of filtering process (see Figure 2). The first stage (Stage I) was to screen out the articles evidently not relevant. We employed exclusion criteria (see Table 2) to eliminate the articles clearly not focused on innovation, not on EMs, or not on private sector business. This process was carried out by a trained research assistant and supervised by a senior researcher; the process was done by reviewing the articles' title, keywords, and abstract. We retained 477 articles after this first round of exclusion criteria were applied.

The second exclusion round (Stage II) was more challenging because the definition and degree of relevance as a core list of literature was less explicit from the title, keywords, and abstract alone. The full text of the article needed to be reviewed, and the results of this round was made by two senior experienced researchers who teased out the questionable articles. An initial agreement level of 97% with 98.5% agreement in the second round was reached when it came to eliminating articles with little focus on innovation or EMs. A total of 272 articles were retained after this round.

Finally, the third round of discussion (Stage III) allowed for a detailed discussion on the remaining articles to fully go through the study focus and for us to refine the criteria definition, with final full agreement reached after a thorough discussion. This gave us a final list for analysis of 264 articles. We ended up with 612 documents in our folder to record the process of article identification, filtering, discussions and the full text of the finally identified articles. The last two rounds of discussion were documented in Word documents with a total 9,079 minutes (151 hours) of editing time, excluding the time of conversation through video-conference. The articles in the final list were codified using a content thematic analysis employed by the research team.

Figure 2. Three-stage document exclusion process

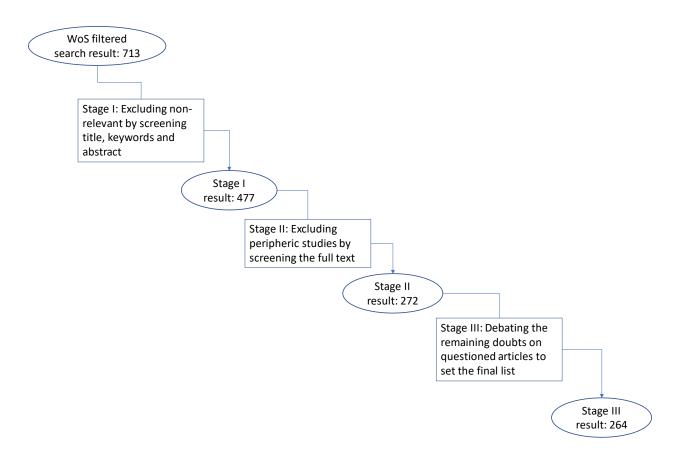


Table 2. Exclusion criteria in article selection filtering

Criteria	Reason for Exclusion	Illustrative Example	
No innovation focus	Not relevant for the current study	David-Barrett et al. (2017): It is about	
		institutional corruption and firm	
		performance, not focused on innovation.	
No emerging market	Not relevant for the current study	Amendolagine et al. (2014): It mentions	
focus		emerging economies in the abstract.	
		However, the focus is on Italian	
		manufacturers.	
Not private sector	Public sector, ONG, or other type	Liefner and Schiller (2008): It is about	
focus	of nonprivate sector having	academic capabilities of university in the	
	different management principles	technological upgrading. It does not refer	
		to private sector.	

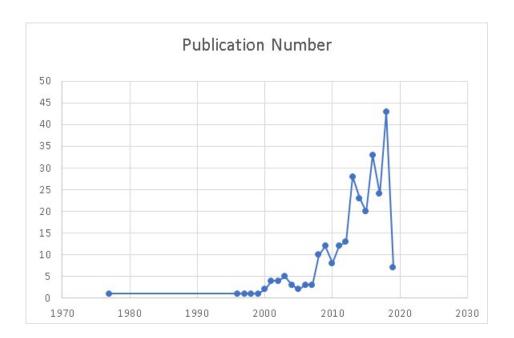
Note: The listed references are not cited in the reference list because they are not relevant accounts.

Results

The analysis of these 264 articles shows there is an increasing number of publications on the topic of innovation and EMs in these listed top journals (see Figure 3). Since the first identified paper published in 1977 on *Research Policy*, which explicitly reviews technological innovation in developing countries, it was not until 1996 when another published work, again in *Research Policy*, is found, here empirically testing the determinants of research and development activities and

expenditures in manufacturing firms in developing countries (i.e., India). The other sequential articles before the year 2000 are one per year, addressing different sectors in India, China, and Russia. It is worth mentioning that the number of publications increases exponentially immediately after this (see Table 3 with more details), reaching 43 articles per year in 2018.

Figure 3. Publication number per year



In terms the research type, empirical works dominate. Among the identified articles in the field of business and management, only 22 (8%) are conceptual papers, while the majority are empirical papers (242, 92%). Within these conceptual papers, 13 out of 22 (59%) are reviews. Among the empirical papers, very few employ mixed research methods (2, 1%), and the rest are relatively equally split between qualitative and quantitative methods: 127 (52%) using qualitative methods and 113 (47%) using quantitative methods. Among the qualitative method research, case

studies are the most frequently used. Among the quantitative method research, survey questionnaires, panel data, and existing secondary datasets from public institutions are the most common.

Table 3 clearly illustrates the tendency to better understand the characteristics of emerging market innovation, here shown by the increasing number of publications in different areas of research in field of business and management; this is categorized in five time periods. Although there are only five publications before 2000, this number increases spontaneously to 18, 30, 84, and 127 in a period of 5 years. Comparing the first and last period of analysis, the number of publications increases more than 25 times in a time period of 25 years, discounting the exceptional first publication in 1977.

As seen in Table 3, only 24 out of the 42 initially listed top journals have had publications on innovation and EMs. The journals with most publications on this topic are *Research Policy* and *Technovation*, both of which are in the area of innovation. These two journals are followed by the *Journal of Business Research* and *Asia Pacific Journal of Management*, which spread into the areas of general management and international business. However, the majority of these topranked journals are either innovation focused or international business oriented, with a few exceptions in the area of general management, organization studies, and strategy. Among the latter, the *Journal of Business Research* can be highlighted as an exception. The two leading journals not only lead in terms of the total number of publications, but also are the first in launching the research on this topic in their earlier publications.

Table 3. Published paper number in journal ranking by period

Journal	ABS Area	Pre 2000	2000-2004	2005-2009	2010-2014	2015-2019	Total
Research Policy	Innovation	4	7	9	10	12	42
Technovation	Innovation	1	5	8	11	12	37
Journal of Business Research	General Mgt			1	6	20	27
Asia Pacific Journal of Management	Int Bus and Area Studies			1	5	16	22
Journal of Product Innovation Management	Innovation				8	11	19
R & D Management	Innovation		3		4	11	18
Journal of International Business Studies	Int Bus and Area Studies		1	3	4	6	14
International Business Review	Int Bus and Area Studies			1	5	7	13
Journal of World Business	Int Bus and Area Studies			3	3	7	13
Journal of International Management	Int Bus and Area Studies			1	5	6	12
Management International Review	Int Bus and Area Studies				3	5	8
Management and Organization Review	Int Bus and Area Studies			1	4	2	7
Organization Science	Organization Studies		1	1	1	3	6
Strategic Management Journal	Strategy				3	3	6
Long Range Planning	Strategy				3	2	5
Others			1	1	9	4	15
Total		5	18	30	84	127	264

Note: The others include journals that have three or less articles. They are: Global Strategy Journal (3), Journal of Management Studies (3), California Management Review (2), Harvard Business Review (2), Academy of Management Perspectives (1), British Journal of Management (1), European Management Review (1), Human Relations (1), and Journal of Management (1).

Others that followed the trend setters and began to discuss this matter are R&D Management, Journal of International Business Studies, and Organization Science, all of which have some publications in the period of 2000–2004 in three areas: innovation, international business, and organizational studies. Most other journals continued the trend in 2005–2009, highlighting the Journal of World Business, with other leader journals have been commented in the above. A few journals started publishing innovation and EMs in 2010–2014 but with high productivity such as the Journal of Product Innovation Management, which is ranked fifth in terms of the total number of publications.

On the one hand, we can see the clear trend in the interest to research and publish studies on innovation and EMs in the journals focusing on international business, innovation, and general management. On the other hand, we can also observe the explicit expression of some top journals' such as the *Academy of Management Journal, Academy of Management Review, Administrative Science Quarterly*, or *Leadership Quarterly* shows no interest in these topics.

Findings

Because the selection of articles regarding the geographical aspect is based on the conceptualization of EMs and its varied definition used in the search, we did not add any other potential search results by limiting the geography of the research to China, India, Russia, Brazil, South Africa (BRICs), and so forth. This decision is based on two fundamental reasons. One is the definition of the list of EMs, which varies based on the institution that defines it and the year that the measured values change. So it is not accurate to use one single emerging country list to cover publications over a time span of more than 20 years. The second is that if the authors do not include any variation of EMs in all the search fields like keywords, then they most likely do not consider the relevance of their study for the target focus of EMs. Instead, including a list of specific

emerging countries would generate more noise in the article selection and filtering process compared with compensating for the additional cost in selecting a much larger amount of initial results. Holt (2010) suggests an initial search outcome of around 500 articles is reasonable for this type of analysis while extending it to be more inclusive in the search scope would generate an amount of work out of the current study's reach.

Despite this, we find that a country focus in the analysis highly coincides with economic interests on BRIC countries (see Table 4). There are 65 articles without a specific country or geographic focus. Some are region based (e.g., East Africa, Sub-Saharan Africa, America, Latin America, or Eastern Europe) instead of country based. Some are comparative and have a large list of countries but specifically focus on any emerging economy, clustering them together. Some others are comparisons of a few specific economies, so we input the first mentioned country and count the other countries in addition (see the note of Table 4). We only count the countries that are explicitly mentioned in the abstract.

Table 4. Emerging country focus

EM focus	Number	Total
China	100	108
India	30	38
Brazil	15	16
Taiwan	7	8
Korea	6	7
Russia	3	5

Note: The column of "Number" refers to the number of articles that use the emerging country as the first mentioned country, while the column of "Total" refers to the total number of articles that used the emerging country in their study. The difference between the two columns is based on the other countries used in the same study.

Table 4 illustrates a clear research and publication interest in BRIC countries and former emerging economies but that are now classified as newly industrialized economies, such as Taiwan and Korea (i.e., South Korea). This list is led by China, followed by India but with a large distance between them. This result may also be biased by the increasing number of emerging scholars in research and publishing in the field of management who are connected to these countries. However, we suspect this effect is minimal and that the major cause of this ranking is because of these countries' rising economic power and influence. What could be biased is the number of related publications focusing on Taiwan and Korea because of the EM selection criteria. Because Taiwan and Korea often are no longer listed as EMs in past couple of decades by many public institutions, many researchers who carry out studies focusing on these two economies would not classify them as EMs. Consequently, the actual number of published research about these two countries would be much higher than shown in this ranking and would be disproportional with the other listed emerging economies in Table 4.

Table 4 only highlights the markets that have a frequency higher than five. There are some other countries like Chile, Peru, and Argentina in the region of Latin America, Ghana and Kenya in Africa, and Pakistan, Thailand, and Vietnam in Asia that have a frequency of more than one. These data demonstrate a high interest in BRIC, while there is a more distributed focus on other EMs around the world in different continents.

In terms of industry focus of the identified publications, Table 5 exhibits the top-ranked industries in the analysis. Except for the automobile industry, other top-ranked industries are mostly vaguely defined. The manufacturing, high-tech, and knowledge sectors are examples. More than half of the publications (n = 134) have no specific industry focus. Because many take the approach toward innovation as patent or technology advancement, these studies have not had a

specific need to focus on any industry to generate a hypothesis or analysis. Some other sectors with more than one frequency are biotechnology, oil and gas, retail, and power.

Table 5. Industry focus

Industry	Total
Manufacturing	30
High-tech	26
Automobile	14
Knowledge	13
Service	11
IT & Telecom	9
Electronics	6
Pharmaceutical	6

It is generally believed that innovation is often generated in an advanced economy, where there are more financial resources and human capital for creative and highly risky activities. EMs are often thought to benefit from the initial innovation generated in advanced economies, which is then adopted to their local markets through multinationals. This may be true half a century ago and may remain partially true today. However, the increasing innovative capability of EMs has changed the focus of the argument of where innovation originates from in terms of advanced or emerging economies. In this analysis that shows the direction of innovation in relation with EMs (see Table 6), we can see that most studies have been focusing on innovation in EMs (162, 61%), followed by the application of innovation or its transfer to EMs (79, 30%), and then innovation exported from EMs (47, 18%). These data illustrate the relevance and potential of innovation

capability in EMs, and although weak yet, EMs have started to show a clear trend of exporting and transferring their innovation outside.

Table 6. Publications of different directions of innovation in emerging markets (EMs)

Adjusted directions with all combined	Number	Weight
Innovation in emerging markets	162	61%
Innovation to emerging markets	79	30%
Innovation from emerging markets	47	18%

Note: There are articles that have a combined focus on the direction of innovation, either all three states or two of them. Therefore, the value of each item showed in this table is a sum of these directions, which makes the overall number surpass the total amount of 264 articles. The weight proportion of each item is calculated based on 264 articles.

Another focal target of our study is to identify the type of innovation being researched. We distinguish among the different types of innovation, such as technological innovation, product innovation, organizational innovation, strategy innovation, and so on. In the coding of these types of innovation, we also enlisted the "others" as a category to include any other possibilities than the above mentioned four types of innovation. Table 7 exhibits the results of the analysis in terms of the type of innovation. Most of the research focus has been on the product type innovation (59%), with the most referring to research and development and new product development. This type of innovation focus is followed by technological innovation (28%), which mainly refers to patent type as the measure for the innovation capability, performance, or outcome, for technological transfer or capability comparison. There are some studies that focus on organizational innovation (11%), here mainly referring to the organizational capability to generate innovation, knowledge acquisition, and knowledge generation. A few other types of innovation have been noted, such as

business model innovation and market innovation, which mainly refer to adaptive sales to consumers when entering new markets.

Table 7. Type of innovation

Type of innovation	Number	Weight
Product innovation	157	59%
Technological innovation	74	28%
Organizational innovation	30	11%
Others	3	1%

Discussions and Conclusions

The purpose of the current review was to overview the phenomenon of innovation in relation with EMs. The results highlight a clear growth trend in the research area of innovation and EMs, with most publications coming from the top journals in the area of innovation and international and area business. The country with the most research interest is China, among other BRIC countries. There have been less conceptual and review papers; most are empirical papers with a roughly equal distribution between quantitative and qualitative methods. There are diverse industrial interests and focuses, here generally led by manufacturing and high-tech types. Instead of the common understanding that innovation generation in advanced economies is extended to emerging economies, our study finds that most recent studies focus on the innovation generation in EMs, followed by the innovation extension to EMs, and then the outgoing innovation from EMs.

The most focused on innovation type in these studies is about product innovation and technological innovation, with a few studies addressing organizational innovation and other areas.

The initial work identified by our research highlights the concern over the technological innovation in developing countries. Because there is a limited number of research work in the field of business and management on the innovation in EMs, Crane's (1977) work is based on studies in other fields such as sociology, development studies, and economics. A later review of a similar concern focuses on technological innovation, but transfers this into a firm's innovative product and process development. Because the studies focusing on innovation in EMs are still limited, Da Silveira (2001) reviews the innovation literature in general to propose a research agenda of innovation diffusion for developing economies. Both reviews have largely focused on institutional factors. Munir (2002) continues with this line but further distinguishes between the normative and cognitive aspects of institutional environments in influencing technological transfer, here based on the premise of the underlying construct for the action of technological transfer actors.

Technological transfer has been a central interest in the early period of this research area. Kaufmann and Roessing (2005) specify the conflictive interests between headquarters and subsidiaries and how to manage this through a multidimensional intraorganizational framework. Instead of transferring innovation from advanced economies to EMs, as most of the earlier studies address, Immelt, Govindarajan, and Trimble (2009) reversely investigate innovation transferred from emerging economies by employing the disruptive example of GE. Indeed, reverse innovation calls for another stream of innovation transfer direction, one moving from emerging economies to advanced economies. In addition to the focus change in this period, the emphasis on the innovation of technology also shifted to the innovation of the product.

Williamson (2010) proposes the business model of the innovation of emerging market players to compete in a global scenario: cost innovation and a revolution of value-for-money. Aligning this to a focus on innovation in an emerging economy, Washburn and Hunsaker (2011) exhibit examples of finding great ideas to orient innovation to the market with global "Bridger" instead of a simple product adaptation to succeed in EMs. Similarly, Nakata and Weidner (2012) focus on enhancing new product adoption at the base of the pyramid. During this period, the emphasis of product innovation has been diversified to a variety of market-oriented innovation, which could be business model adaptation or reconstruction based on the new market analysis.

The earlier reviews are much more general when it comes to EMs. Yang, Liu, Gao, and Li (2012) and Li, Zhang, and Lyles (2013) specifically focus on China. Yang, Liu, Gao, and Li (2012) identify firms' external factors influencing technological innovation as uncertain environment and the influence of government; internal factors as market orientations, entrepreneurship orientation, top management team, organizational control, and organizational learning; and interfirm factors as interfirm cooperation and/or alliance, network and managerial ties, and cluster cooperation. Li, Zhang, and Lyles (2013) extend the concept of technological innovation in China to knowledge spillover, search, and creation. Bundling different directions of knowledge transfer and creation, Li, Zhang, and Lyles (2013) suggest the evolution phases of knowledge flow among foreign and domestic firms: Phase I: knowledge transfer from foreign head offices to overseas subsidiaries; Phase II: knowledge spillovers from foreign firms to domestic firms; Phase III: reverse spillovers and reverse innovation.

Following the reviews on innovation in China, Nair, Guldinken, Fainshmidt, and Pereshkan (2015) work on innovation in India and identify the macro and micro levels of innovation research in India. Furthermore, von Zedtwitz, Corsi, Søberg, and Frega (2015) focus

on reverse innovation and set up a typology of 10 types of reverse innovation, in addition to six types of global innovation flow. A later review also addresses reverse innovation but specifically on launching a reverse-innovated product with a framework to assess a reverse-launch decision based on the features of the product, evaluation mechanisms, market, and firm (Zhu, Zou, and Xu, 2017). The most recent review works have been addressing trending topics. One focuses on a key issue in emerging market innovation: corporate technology licensing, its determinants, causal connections, and outcomes (Symeonidou and Bruneel, 2017). Another is about corporate social innovation to alleviate social problems through doing good innovation (Varadarajan and Kaul, 2018).

The present work is descriptive and presents the tendencies found in this field of study. However, further in-depth analysis on certain specific characteristics is needed. A bibliometric or meta text analysis or similar analytical tool would also be useful to explore further the underlying connections between the above-mentioned variables. Giving EMs are vaguely defined, future research on specific areas such as focusing on China, India, or BRIC may be necessary to avoid the omission of relevant research works in the search process, to update the existing three review works with a specific angle, and to identify innovation flow processes and determinants.

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